# RHIC Machine/Detector Planning Meeting

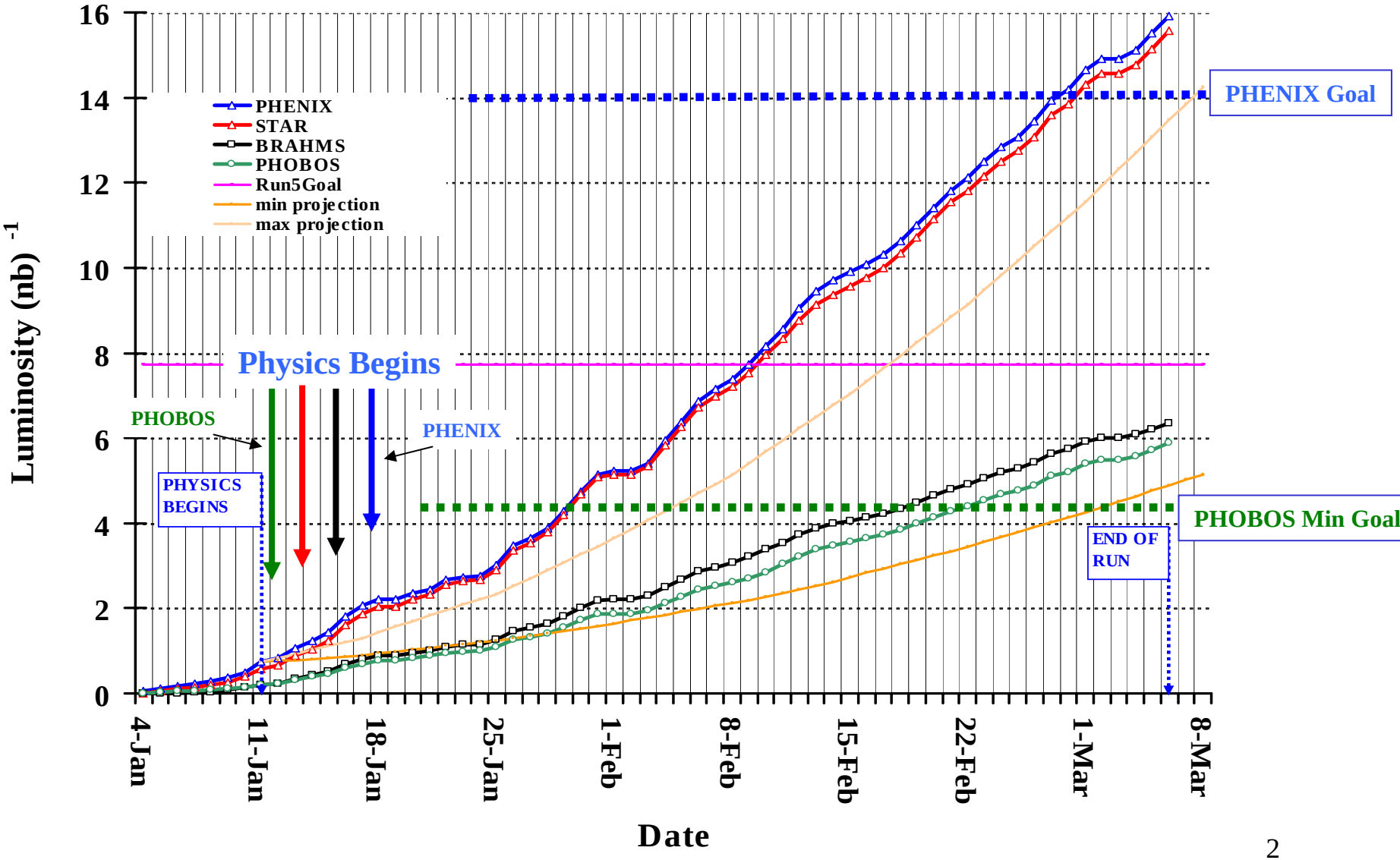
9 Mar 05

## Agenda

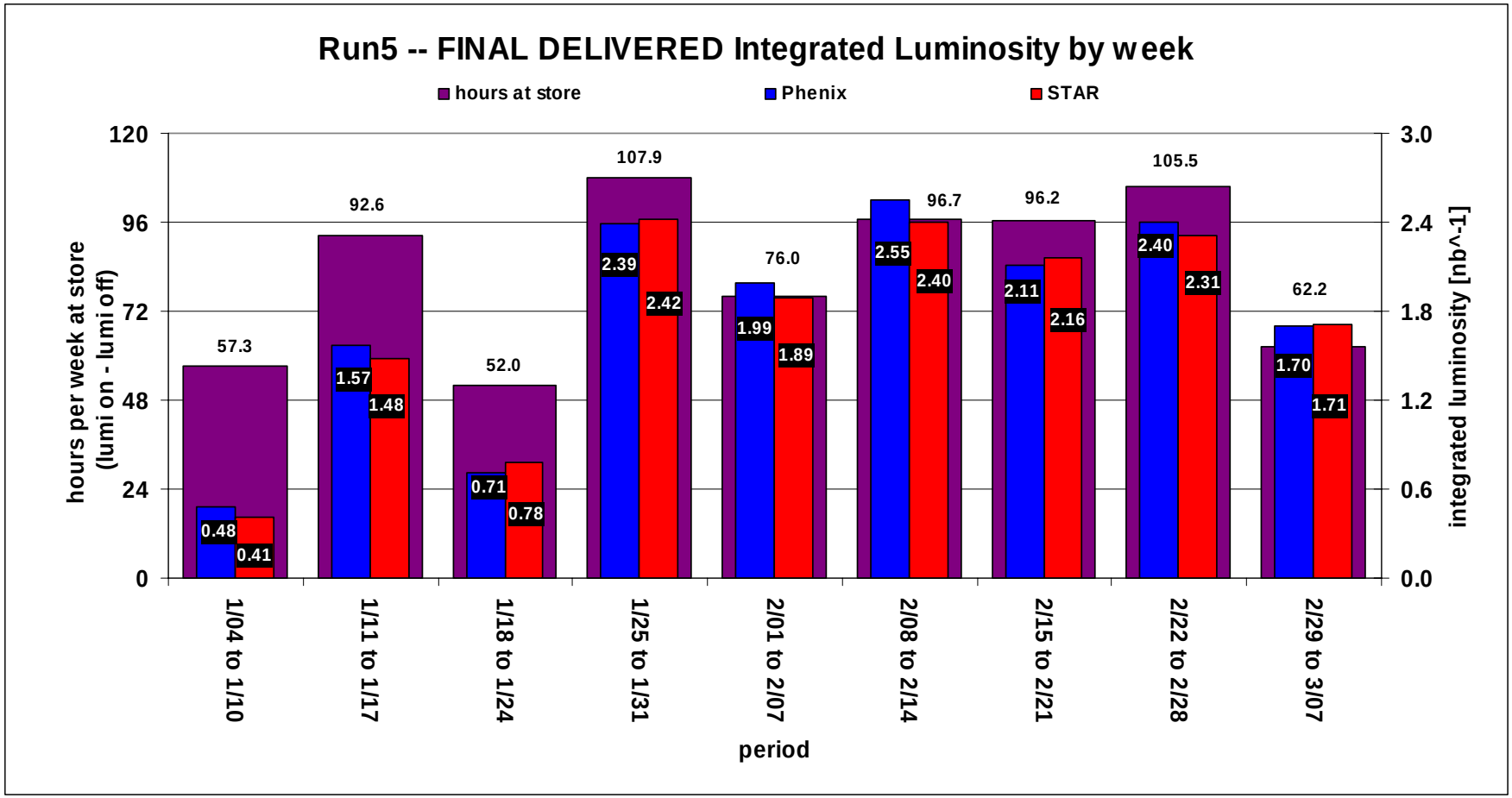
- **Schedule Issues – (Montag)**
- **62 GeV Cu-Cu Machine Status (Pilat)**
- **Report from experiments (STAR,PHOBOS,PHENIX,BRAHMS)**
  - **Final recorded luminosity totals etc for 200 GeV Cu-Cu run**
  - **Expectations for 62 GeV and Injection Cu-Cu**
  - **Other**
- **Polarized Proton Update (Bai)**
  - **AGS pp development**
  - **AGS Cold Snake**
  - **CNI Polarimeter**
  - **Jet Target**
  - **Other**
- **RCF Issues (Throwe)**
- **Other business**

**Planning Meeting Web Site: http://www.c-ad.bnl.gov/esfd/RMEM/rhic_planning.htm**

# RHIC Run 5 Final Delivered 100x100 GeV/n Cu-Cu Luminosity



# RHIC Machine/Detector Planning Meeting



As of 9 Mar 05

# RHIC Machine/Detector Planning Meeting

- ***RHIC Run5 Plan (estimate based on present understanding of budget)***

  - **18 Nov 04 – Cool down begins**
  - **23 Nov 04 – Blue Ring Cold**
  - **28 Nov 04 – Yellow Cold**
  - **29 Nov 04 – Short in D6-D8 dipoles Yellow Ring, schedule delay**
  - **3 Dec 04 – quad bus-bus short in sector 12, shutdown to repair**
  - **27 Dec 04 – short problem resolved, rings at 4 degrees again**
  - **27 Dec 04 - "2 week" RHIC setup with beam began**
  - **28-29 Dec 04 – found & fixed aperture problem in Yellow Ring (Al foil)**
  - ***5 Jan 05 – "2 week" ramp-up with colliding beams began***
  - ***11 Jan 05 – Physics with 100x100 GeV/n Cu-Cu began***
  - **24 Mar 05 – End of 10.3 week Cu-Cu run**
  - ***24-30 Mar 05 – begin 3 week pp setup***
  - **30 Mar – 1 Apr 05 – Jet Installation etc**
  - ***1-16 April – pp setup resumes***
  - ***16 Apr 05 – Begin 10.0 week pp Physics run***
  - **25 Jun 05 – end pp run, RHIC Run 5 ends**
  - **30 Jun 05 – Cryo switch to $LN_2$ complete, *32.0* weeks of RHIC cryo operation ends**

As of 9 Mar 05

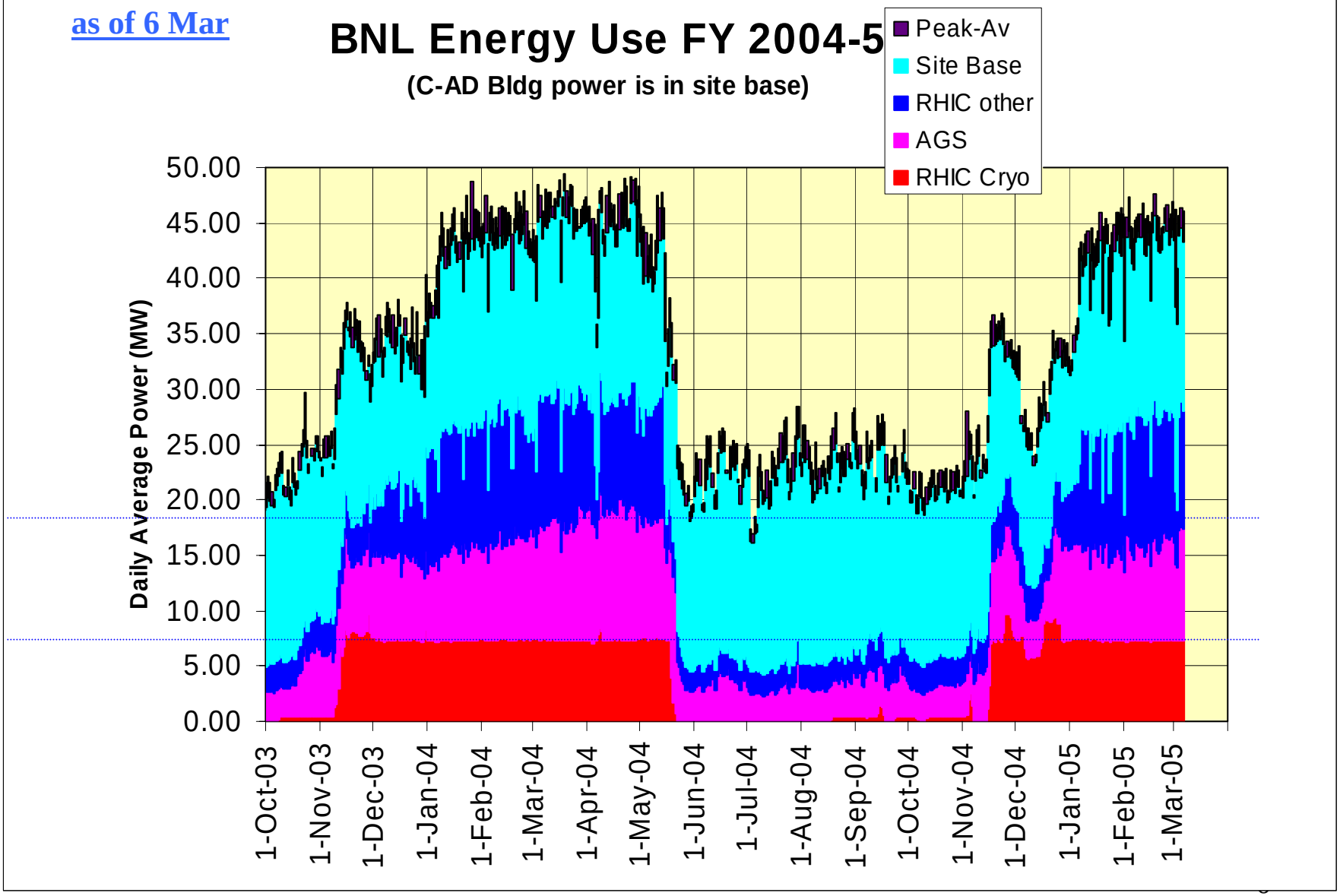
# RHIC Machine/Detector Planning Meeting

- **Details – as run/planned**

~ final

- *11 Jan – Physics with Cu-Cu began*
- *7 Mar (0800) – end 200 GeV/n Cu-Cu*
- *7-9 Mar – Setup 62.4 GeV/n Cu-Cu*
- *9-15 Mar - 62.4 GeV/n Cu-Cu Physics*
- *15 Mar – 8 hours at injection*
- *15-22 (1600) Mar - 62.4 GeV/n Cu-Cu Physics*
- *22 (1600)-24 (0800) March Cu-Cu Physics at RHIC Injection*
- **24 Mar (0800) – End of 10.3 week Cu-Cu run**
- *24-30 Mar – begin 3 week pp setup*
- **30 Mar - 1 Apr 05 Cold Snake/Jet Installation/CNI etc**
- *1-16 Apr – complete 3 week pp setup*
- *16 Apr – Begin 10.0 week pp Physics run*
- **25 Jun – end pp run, RHIC Run 5 ends**
- **30 Jun – Cryo switch to $LN_2$ complete, *32.0* weeks of RHIC cryo operation ends**

as of 6 Mar


BNL Energy Use FY 2004-5
(C-AD Bldg power is in site base)
Peak-Av
Site Base
RHIC other
AGS
RHIC Cryo
Daily Average Power (MW)
50.00
45.00
40.00
35.00
30.00
25.00
20.00
15.00
10.00
5.00
0.00
1-Oct-03
1-Nov-03
1-Dec-03
1-Jan-04
1-Feb-04
1-Mar-04
1-Apr-04
1-May-04
1-Jun-04
1-Jul-04
1-Aug-04
1-Sep-04
1-Oct-04
1-Nov-04
1-Dec-04
1-Jan-05
1-Feb-05
1-Mar-05

# RHIC Machine/Detector Planning Meeting

## Archive

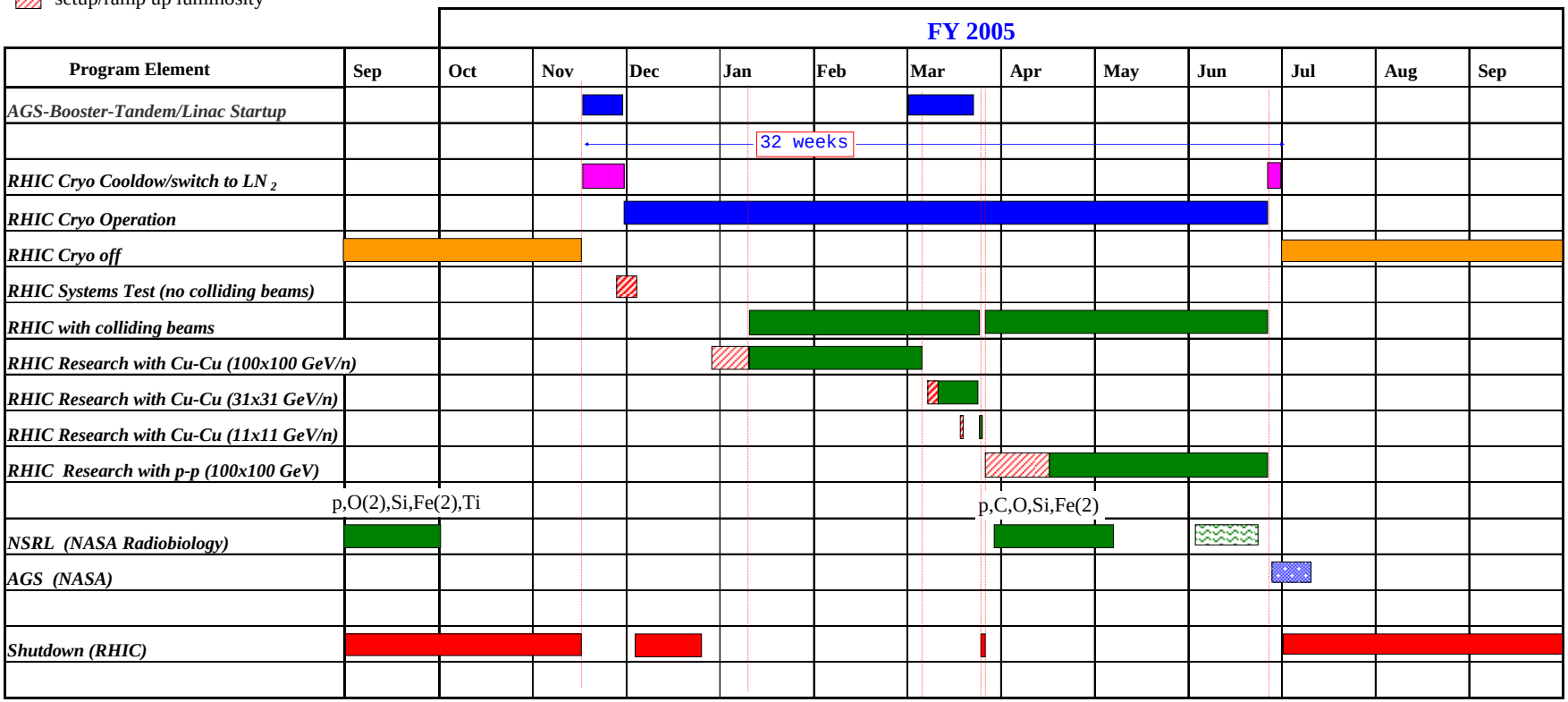
http://www.c-ad.bnl.gov/estd

# C-A Operations-FY05

22 Feb 05

## Schedule - subject to change

pending approval/funding
schedule to be determined
setup/ramp up luminosity



# RHIC Machine/Detector Planning Meeting

17 November 2004

## Purpose of this meeting:

- To address issues and priorities relating to the optimization of physics output from RHIC experiments.

- To discuss and promulgate policy (when needed).

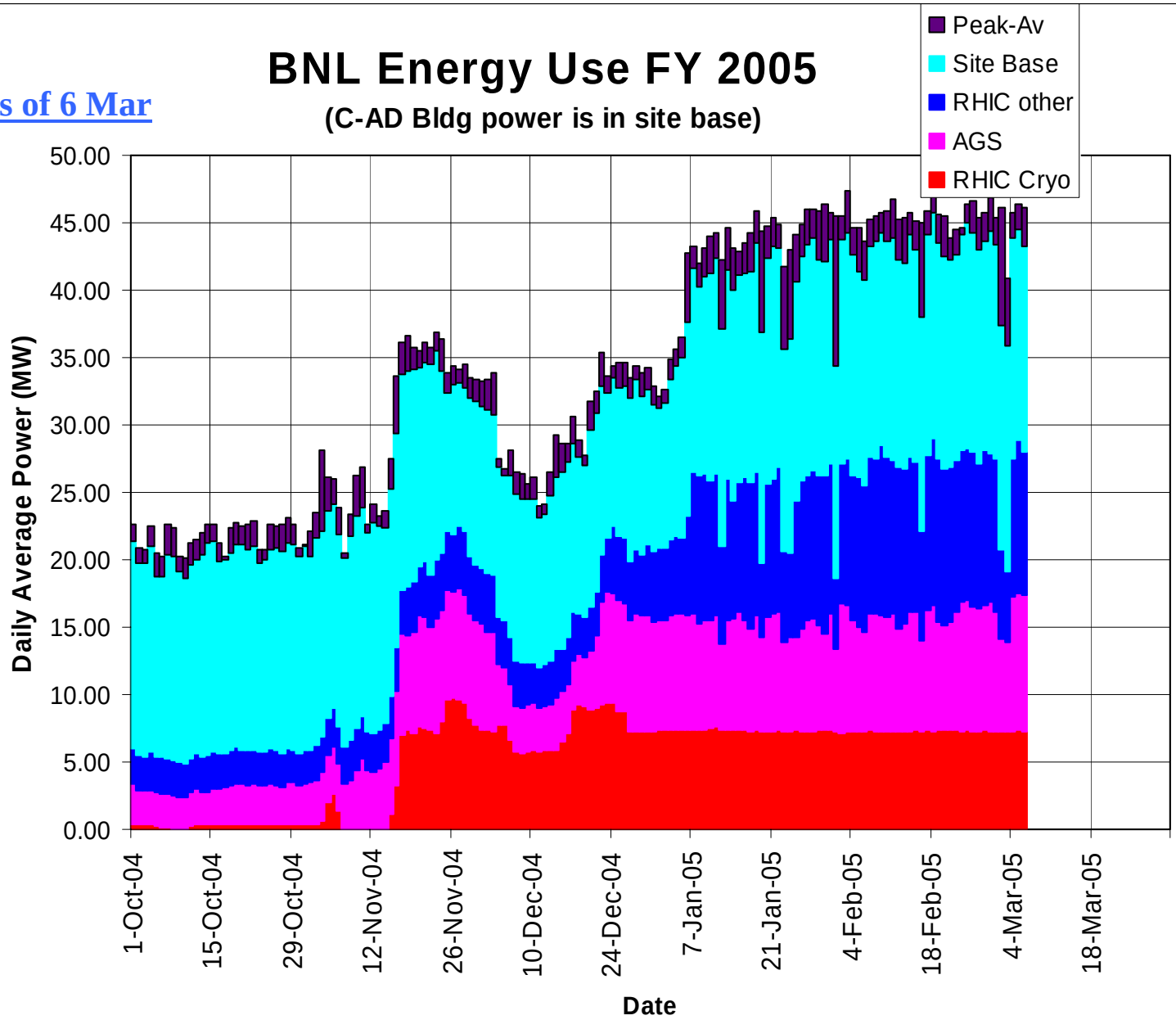
# RHIC Machine/Detector Planning Meeting

17 November 2004

## PAC Recommendations (very short summary):

- 8-10 week pp run should have highest priority
- Cu-Cu run should accumulate an integrated delivered luminosity of at least 7 $nb^{-1}$ at $\sqrt{s}$ = 200 GeV
- Cu-Cu at $\sqrt{s}$ = 62.4 GeV and 1 day at injection is advisable if above goals are met
- 1-2 day pp (unpolarized) run at $\sqrt{s}$ = 400-500 GeV desirable

as of 6 Mar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1-Oct-04
15-Oct-04
29-Oct-04
12-Nov-04
26-Nov-04
10-Dec-04
24-Dec-04
7-Jan-05
21-Jan-05
4-Feb-05
18-Feb-05
4-Mar-05
18-Mar-05
Date

# Experiment Requests
## (based on 2 Feb input from experiments)

- **PHOBOS**
  - Goal 10 $nb^{-1}$ Delivered Luminosity (1B events)
    - 0.4B events considered adequate (~ 4 $nb^{-1}$ Delivered)
    - Recorded Luminosity/Delivered ~ 25%
    - Delivered Luminosity offset (Physics start 12 Jan) = 0.2 $nb^{-1}$
  - Prefer uptime to Luminosity development
  - Strongly request 2-3 week 62.4 GeV CuCu run
  - Strongly request 1 day of CuCu at injection (22.4 GeV)

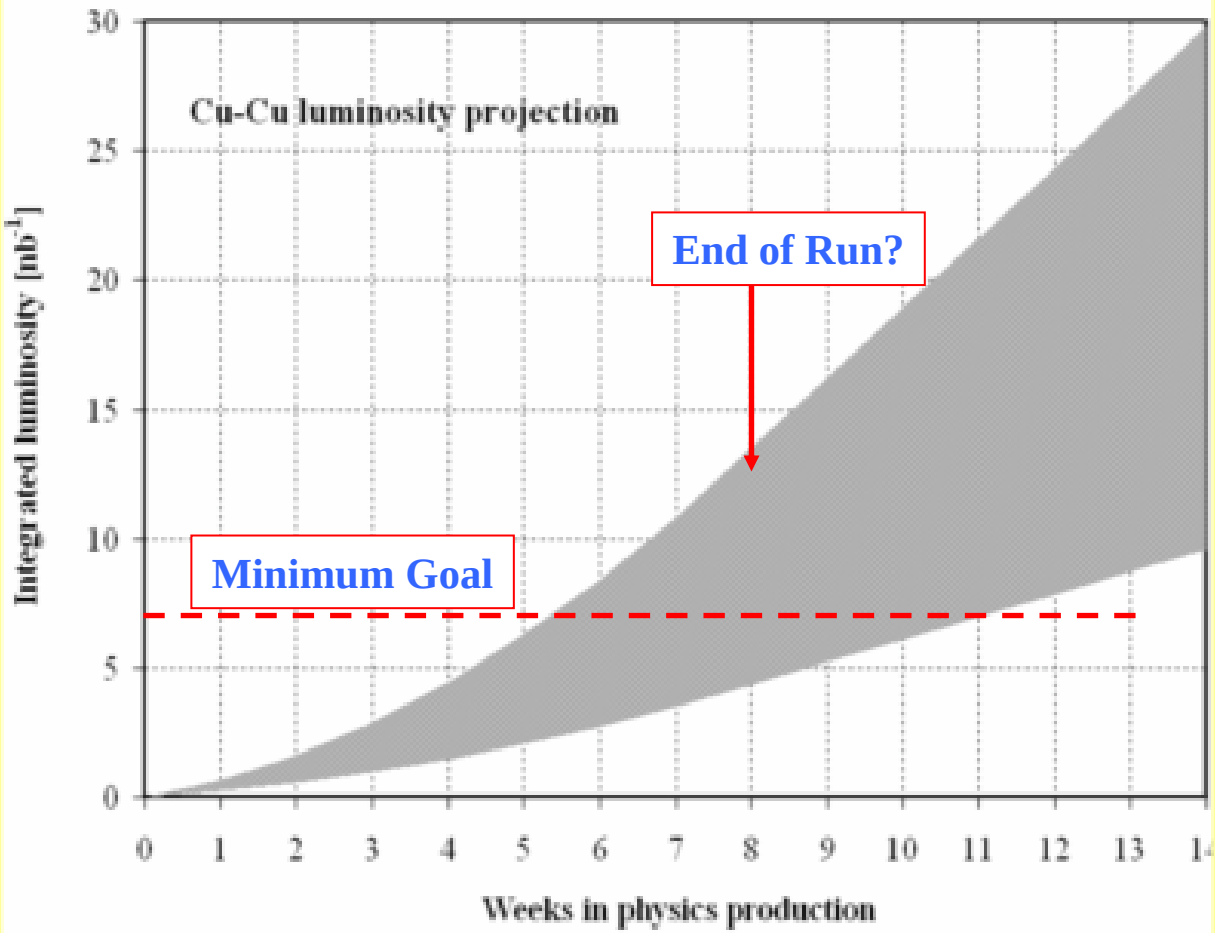
- **PHENIX**
  - 7 week (to 2 Mar) CuCu 200 GeV should reach goal
    - Recorded Luminosity/Delivered ~ 24%
    - Delivered Luminosity offset (Physics start 18 Jan) = 2 $nb^{-1}$
    - Goal Delivered Luminosity = 12 $nb^{-1}$
  - Prefer Luminosity development continue through ~ 11 Feb
  - Request 2 week 62.4 GeV CuCu physics run (very interested)

# Experiment Requests

- **BRAHMS**
  - Soft Physics goal 2 $nb^{-1}$ Delivered
    - Recorded Luminosity/Delivered ~ 0.4
  - High-pT goal 4 $nb^{-1}$ Delivered (runs after completion of soft physics)
    - Delivered Luminosity offset (Physics start 16 Jan) = 0.5 $nb^{-1}$
    - Recorded Luminosity/Delivered ~ 0.4 (?)
  - Luminosity development and/or β* reduction important
  - Request minimum 2 week 62.4 GeV CuCu run

- **STAR**
  - 8 week (to 7 Mar) CuCu 200 GeV assumed
    - Recorded Luminosity/Delivered ***not specified***
    - Min-Bias Delivered Luminosity offset (Physics start 14 Jan) = 1 $nb^{-1}$
    - Rare Trigger Delivered Luminosity offset (Physics start 31 Jan) = 5 $nb^{-1}$
    - Goal Delivered Luminosity = ***not specified***
    - Prefer uptime to Luminosity development
    - Request 10-14 days 62.4 GeV CuCu physics run

# RHIC Machine/Detector Planning Meeting




Projections based on the following beam intensity:

Miminum :

**45 * 2.9 x10$^{9}$**

Maximum:

**28 * 6.6x10$^{9}$**

Luminosty evolution:

**8 weeks ramp-up** during physics production

**β* = 1 meter**